

DESCRIPTIONS OF SOME NEW FORMS OF HELICOID LAND-SHELLS.

By G. K. GUDE, F.Z.S., etc.

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PLATE VII.

SOME of the shells forming the subject of the present paper have been in the British Museum, in the collections of Mr. Ponsonby and Mr. Da Costa, or in my own possession, for several years; and although the fact of their being undescribed has never been disputed, I have hitherto hesitated to deal with them, hoping that some one more competent would do so.

1. LABYRINTHUS BAERI, Dautz., var. DIMINUTA, var. nov.

Pl. VII, Figs. 1-4.

Differs from the type described by Dautzenberg¹ by its smaller size. In the characters of the aperture and peristome it agrees closely with the type.

Diam. maj. 27, min. 23 mm.; alt. 11 mm.

Hab.—Perené, Peru. Altitude 900 metres.

Diam. maj. 24·5, min. 21 mm.; alt. 11·5 mm.

Hab.—Sagarmó, Peru. Altitude 1,000 metres.

Two specimens received from Mr. W. F. H. Rosenberg in 1899. This habitat is considerably farther south than that of the type.

2. THIERSITES (BADISTES) MERIDIONALIS, n.sp. Pl. VII, Figs. 5-7.

Shell narrowly umbilicated, sublenticular, finely striated, whitish with 3 pale buff bands; the first subsutural, sharply defined; the other two more or less diffused, one above and one below the periphery; the base becomes pale brown towards the umbilicus. Spire depressed, suture margined, apex obtuse. Whorls 5, flattened above, increasing regularly; the last acutely keeled at first, becoming rounded and dilated towards the mouth, tumid below, not descending anteriorly. The first four whorls are finely granulated; the last shows a few traces of spiral lines above, but below the periphery it is ornamented with distinct wavy incised spirals. Aperture oblique, subovate; margins subparallel; peristome white, thickened and reflexed, columellar margin dilated, partly covering the narrow but deep umbilicus.

Diam. maj. 28, min. 23·5 mm.; alt. 16·5 mm.

" " 27, " 22 " " 14 "

Hab.—South Australia.

Type in my collection.

¹ Journ. de Conchyl., tom. xlix (1901), p. 306, pl. ix, figs. 1-3.

Two specimens were received in 1893 from Mr. Sowerby as *Helix Howardi*, Ang. The present shell, however, is larger and more depressed than that species, the sculpture is different, and the aperture is more rounded in outline, while the umbilicus is narrower and partly covered by the columellar margin of the peristome. *T. meridionalis* also resembles *T. patruelis*, but the latter has the whorls more rounded, is less depressed, and is totally devoid of keel.

Mr. Ponsonby possesses a specimen of the new species, measuring $30 \times 25 \times 17$ mm. An interesting instance of tenacity of life was observed with the specimens under discussion. They were received on November 13th, 1893, when they were placed in a box and put on one side; on July 7th, 1894, on being brought out for re-examination, the animals were found to be still alive, and being placed on some damp moss they soon began to crawl about.

3. LEPTARIONTA VENUSTA, n.sp. Pl. VII, Figs. 8-11.

Shell subcovered perforate, trochoid, very finely striated, thin, but solid, shining, chalky white, suffused with greenish yellow round the umbilicus and with a brown umbilical patch; variously banded with pale or dark brown or black. Spire trochoid, suture impressed, apex obtuse. Whorls $3\frac{1}{2}$, rounded at the periphery, inflated, increasing slowly at first, the last widening rather suddenly, dilated and becoming obtusely angulated towards the mouth, descending shortly in front, a little excavated around the umbilicus, and slightly gibbous behind the basal margin of the peristome. Aperture oblique, transverse, subtrigonal; peristome white, the margins slightly thickened and expanded, the basal margin reflexed, the columellar margin slightly dilated and overhanging the narrow perforation of the umbilicus.

Diam. maj. 20·5, min. 16 mm.; alt. 12·5 mm.

„ „ 19, „ 14·5 „ 12 „

„ „ 22·5, „ 17 „ 11·5 „

Hab.—Chiriqui, Panama.

Compared with *L. Costaricensis*, Roth, its nearest ally, *L. venusta* is smaller, more elevated in the spire, rounded instead of keeled at the periphery, while the aperture is less spread out, and the umbilicus is reduced to a narrow perforation, partly covered by the slightly dilated columellar margin. The spiral sulci of its congener are absent.

In regard to coloration and banding the same range of variation appears to obtain in the two species, and there can be no doubt that they are divergent descendants from a common stock. The banding may consist of a narrow, brown, peripheral band, or of two broader, supra-peripheral bands, either black or rich chestnut brown; in the latter case the colouring of the bands is intensified at the edges, especially the lower; in some specimens there are two supra-peripheral bands of a pale brown or greenish yellow, occupying nearly the whole of the upper surface, leaving only two narrow white zones, one below the suture and the other between the two bands.

A rather distinctive and pretty type of colour variety, for which I propose the name *blanda*, var. nov., is that shown in Fig. 11. The upper half is of a pale ochreous brown, bordered at the periphery by a narrow band of a rich deep chocolate colour, sharply defined at its lower edge, but diffused above; there is a broad zone of the same shade just behind the upper margin of the peristome, somewhat diffused near the periphery, and a very narrow line, also of the same shade, occurs just under the suture; the base is similar to that of the type.

Several specimens were received in October, 1899, from Mr. Rosenberg. Representative suites from the same source are also in the British Museum, and in the collections of Mr. Ponsonby and Mr. Da Costa. I am not aware that the species is represented in any other collections.

4. *XESTA DWIPANA*,¹ n.sp. Pl. VII, Figs. 15-17.

Shell narrowly perforated, depressed conoid, thin, fragile, pale corneous, translucent, shining, finely striated with obsolete microscopic spirals. Spire depressed, suture linear, apex obtuse. Whorls 5, rounded, closely coiled, the last increasing rather suddenly, not descending in front; sharply angular at first, becoming rounded towards the mouth. Aperture oblique, semirotundate; peristome thin, straight, acute; columellar margin slightly reflexed over the narrow umbilical perforation.

Diam. maj. 12, min. 10 mm.; alt. 7 mm.

Hab.—Passarocan, Java.

Type in my collection.

Three specimens collected by Mr. Fruhstorfer, and received from him in September, 1891, as *H. Jenynsi*, Pfr. When Pfeiffer first described *H. Jenynsi*² its origin was not known. Later he indicated Tanna Island, New Caledonia, as its habitat.³ This was subsequently corrected to Tanna Island, New Hebrides.⁴ Professor von Martens gives Eastern Java and Querimba Island, east coast of Africa, as habitat;⁵ the former record being based on specimens collected by Zollinger and labelled *Nanina pusilla*, Mouss., in Mousson's collection. The other record was based on specimens collected by Professor W. Peters. The New Hebrides record is an extremely doubtful one, for in spite of diligent search it has never been confirmed; the reference is probably due to a mistaken identification. There only remain, therefore, the two localities Eastern Africa and Java to be considered. Mr. Smith, with his usual courtesy, has allowed me to examine Pfeiffer's types of *H. Jenynsi* in the Cuming Collection, and these leave no doubt as to their correct inclusion in the genus *Martensia*, confined, I believe, to East Africa. Moreover, a couple of specimens from Mozambique received by me from Mr. Anee agree with the

¹ Yava Dwipa (Barley Island), an ancient name of Java.

² Proc. Zool. Soc., 1845, p. 131.

³ Mon. Helic., iv (1859), p. 32.

⁴ Mon. Helic., v (1868), p. 84.

⁵ Preuss. Exped. Ost-Asien, Zool., Bd. ii (1867), p. 254.

types. The only question now remaining is whether Mousson's *Nanina pusilla* is really identical with Pfeiffer's species, a question which the diagnosis by Von Martens is insufficient to decide. That the shells now under consideration are really different from Pfeiffer's types there is no doubt, and whether they pertain to Mousson's species comparison only can decide. Since Mousson's types are not accessible, I consider the most prudent course to pursue is to ignore Mousson's name and to treat the present shells as belonging to an undescribed form. Von Martens has recorded for *M. Jenynsi*, in addition to Querimba Island and Mozambique, a number of localities in German East Africa.¹ He also refers to the fact that the species occurs in Java and the New Hebrides, and is more or less restricted in East Africa to the coast district, so that, he thinks, an introduction from the East is not improbable; although, as he continues, its close affinity to *Mozambicensis*, an inland species, is opposed to this theory.

The differences between *Xesta Dwipana* and *Martensia Jenynsi* can best be given in tabular form:—

	<i>Jenynsi.</i>	<i>Dwipana.</i>
Shell.	Thick, solid, opaque, yellowish white.	Thin, fragile, translucent, corneous.
Spire.	Elevated conoid.	Depressed.
Last whorl.	Keeled all round.	Angular at first, rounded at the mouth.
Base.	Rounded.	Swollen.
Aperture.	Crescent-shaped.	Semi-rotund.
Sculpture.	Distinct spirals.	Obsolete microscopic spirals.

For better comparison I have added figures of *M. Jenynsi* from Mozambique (Pl. VII, Figs. 12-14).

5. *GUPPYA FULTONI*, n.sp. Pl. VII, Figs. 18-20.

Shell imperforate, conoid, pale corneous, ornamented above with transverse brown zones, finely striated, lustreless above, shining below. Spire conoid, suture margined, apex obtuse. Whorls $6\frac{1}{2}$, subplane above, tumid below, increasing slowly and regularly, last not dilated, not descending anteriorly, surrounded at the periphery by an acute, slightly exerted keel. Aperture nearly vertical, unevenly crescent-shaped; peristome thin, straight, acute; columellar margin slightly dilated. Diam. 5, alt. 3.5 mm.

Hab.—Cocos Island, Pacific Ocean.

Type in my collection.

Two specimens were received from Messrs. Sowerby & Fulton as *Guppya Hopkinsi*, Dall. Upon comparison with Dall's description and figures² they proved to be different, and I was at first inclined

¹ Deutsch. Ost-Africa, Bd. iv (1897), p. 49.

² Proc. Acad. Nat. Sci. Philad., 1900, p. 97, pl. viii, figs. 5, 6.

to refer them to the var. *conulus* described by Professor von Martens,¹ but that shell is more elevated in the spire; and the differences between the present shell and *G. Hopkinsi* are sufficient, in my opinion, to warrant its being considered a separate species. No trace of spirals can be detected in *G. Fulloni*, and although 1 mm. less in diameter than *G. Hopkinsi*, it possesses one whorl more; it is also more conoid in the spire, and the whorls are flattened above; the acute exerted keel runs up the earlier whorls margining the suture, a feature totally wanting in *G. Hopkinsi*.

6. GANESELLA PROCERA, Gude. Pl. VII, Figs. 21-24.

Ann. & Mag. Nat. Hist., ser. VII, vol. x (1902), p. 333.

"Shell narrowly umbilicated, trochoid, thin, solid, corneous, very finely striated, minutely granulated above and decussated with spiral lines below the periphery. Spire conical, slightly globose; suture margined, apex obtuse. Whorls 9, flattened above, a little swollen below, increasing slowly and regularly, the last not descending anteriorly, and scarcely dilated towards the mouth, with an acute pinched keel at the periphery, which is continued upwards above the suture. Aperture oblique, subquadrate; peristome thin, acute, slightly thickened, its margins distant, upper nearly straight, a little reflected, forming an angle with the basal margin, which is arcuate and well reflected; columellar margin dilated above and partly covering the narrow umbilicus."

Diam. maj. 14, min. 12.5 mm.; alt. 17 mm.

Hab.—Than-moi, Tonkin.

Type in my collection.

G. procera resembles *G. eximia*, Mlldff., but is larger and wider at the base, the keel is more prominent and pinched, and the umbilicus is narrower; the surface is minutely granulated above and spirally striated below, features which are lacking in *G. eximia*. *G. phonica*, *G. eximia*, and *G. procera* form a group of which *G. phonica* is the smallest and *G. procera* the largest. Mr. Ponsonby possesses a specimen similar to the type. The species is now figured for the first time. Fig. 24 shows the granulated surface of the last whorl behind the peristome (enlarged).

EXPLANATION OF PLATE VII.

- FIGS. 1-4. *Labyrinthus Baeri*, var. *diminuta*, var. n.
 ,, 5-7. *Thersites (Badistes) meridionalis*, n.sp.
 ,, 8-10. *Leptarionta venusta*, n.sp.
 ,, 11. *Leptarionta venusta*, var. *blanda*, var. n.
 ,, 12-14. *Martensia Jemynsi*, Pir.
 ,, 15-17. *Xesta Dicipana*, n.sp.
 ,, 18-20. *Guppya Fulloni*, n.sp.
 ,, 21-24. *Ganesella procera*, Gude.

¹ Sitz. Ber. Ges. naturf. Fr., Berlin, 1902, p. 59.